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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,542	08/21/2003	Koichi Niihara	4041K-000148	9723
27572	7590	11/06/2006		
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303				
			EXAMINER NGUYEN, CAM N	
			ART UNIT	PAPER NUMBER

1754

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,542

Applicant(s)

NIIHARA ET AL.

Examiner

Cam N. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/24/06 (an election).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-23 and 25-39 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on originally filed is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/21/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Election/Restrictions

1. Applicant's election without traverse of Group III, claim 21 (and newly added claims 22-39), in the reply filed on July 24, 2006 is acknowledged.

Response to Amendment

2. Applicants' amendment and remarks filed on July 24, 2006 has been made of record and entered. Claims 1-20 have been canceled. Claim 21 has been amended. Claims 22-39 have been added.

Claims 22-39 are currently pending and under consideration.

Claim Objections

3. Claim 29 is objected to because of the following informalities:

In line 3, "or" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112 (Second Paragraph)

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 22-23 & 25-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Regarding claims 22 & 23, line 2, the phrase “are formed at intervals of from 2 to 200 nanometers” is regarded as process limitation. It is unclear as to how the claimed intervals are related to the nanofilaments in terms of the nano size or its structural properties?

B. Regarding claims 25 & 26, line 2, the phrases “grow up from a surface of the substrate” and “protrude from a surface of the substrate” are unclear as to what applicants intend.

Claim Rejections - 35 USC § 102(b)

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 21-23 & 25-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Saito et al., “hereinafter Saito”, (US Pat. 4,749,671).

Saito discloses an exhaust gas cleaning catalyst, which composed of a refractory three-dimensional structure and a catalytically active substance supported thereon, wherein that surface of part of the catalyst which makes contact with an exhaust gas is formed of numerous irregularly arranged protrusions composed of a refractory inorganic powder having a particle diameter of 5 to 300 micrometers or a mixture of it with refractory inorganic fibers and the catalytically active substance supported on the protrusions (see col. 15- col. 16, claim 1). The

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refractory three-dimensional structure is selected from a group of materials including honeycomb (see col. 16, claims 2 & 3). The refractory inorganic powder is a powder of at least one material selected from the group consisting of active alumina, silica, titania, zirconia, etc. (see col. 16, claim 4). The refractory inorganic fibers are at least one kind of fibers selected from the group including silicon nitride, silicon carbide, etc. (see col. 16, claim 5-6). The catalytically active substance is at least one substance selected from the group including platinum and cerium (see col. 16, claim 8-9).

There is no patentable distinction seen between the claimed exhaust gas device and the exhaust gas cleaning catalyst disclosed by the reference. Thus, the claims are anticipated by the teaching of Saito.

8. Claims 21-23 & 25-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Marcella et al., "hereinafter Marcella", (US Pat. 6,156,685).

Marcella discloses zirconia ceramic fibres, partially stabilized with yttria, and wherein said fibres contain a coating, in which the composition of the partially stabilized fibres is $\text{ZrO}_2\text{-Y}_2\text{O}_3$, the Y_2O_3 ranging from 3 to 7% by weight, and the composition of the coating contains zirconia (see col. 11, claim 1). The composition of the coating also contains an oxide of at least one element selected from a group, which includes Ce (see col. 11, claim 3). The composition of the coating also contains at least one noble metal selected from a group including Pt (see col. 11, claim 4). The diameter of the fibres, excluding the coating, ranges from 15 μm to 25 μm (see col. 11, claim 5).

There is no patentable distinction seen between the claimed exhaust gas device and the material disclosed by the reference. Thus, the claims are anticipated by the teaching of Marcella.

Allowable Subject Matter

9. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Citations

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All references are cited for related art. See PTO-892 Form prepared attached.

Conclusion

11. Claims 21-39 are pending. Claims 21-23 & 25-39 are rejected. Claim 24 is objected. No claims are allowed.

Contacts

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M-F, 9:00 AM - 6:30 PM, at alternative work site.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Cam N. Nguyen/

Nguyen/cnn

Primary Examiner

October 16, 2006

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